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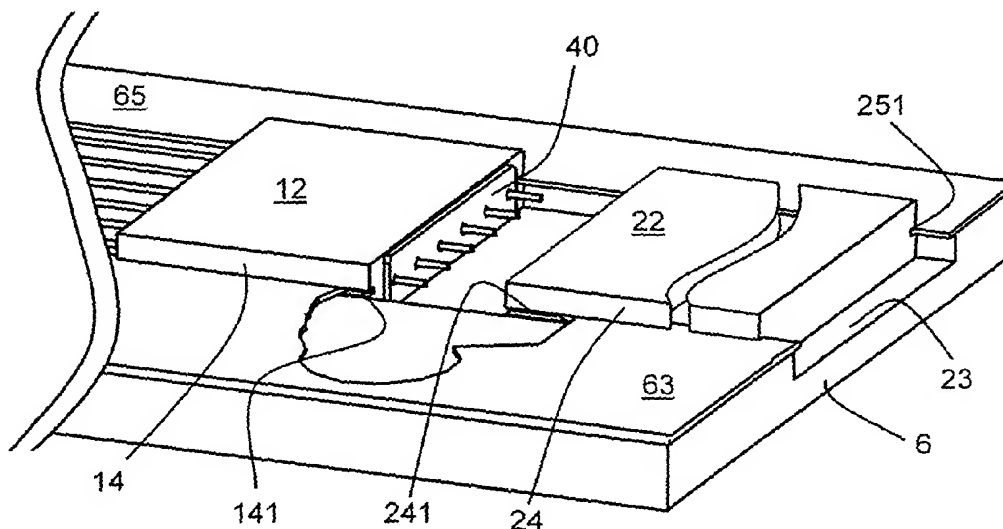
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(54) Title: MICROFLUIDIC CONNECTIONS



(57) Abstract: A junction is made between a first microfluidic substrate (12) having an elongate component (303) protruding from it and a second microfluidic substrate (22) having a corresponding conduit (261). Each of the substrates has a pair of alignment features, for example planar orthogonal surfaces (13,15; 23,25) or grooves (141,151; 241, 251) in opposite sides of the substrate. The substrates are placed on an alignment jig 6 having location features (63, 65) corresponding to the alignment features. The elongate component can be surrounded by a compressible gasket 40. The substrates are pushed towards each other so that the elongate component enters the conduit and the gasket, if any, is compressed. A fluid-tight junction results so long as the substrates are maintained in the necessary position, either by permanent means, or, if a junction which can be disassembled is needed, by maintaining pressure between the substrates. Novel apparatus and novel microfluidic assemblies, including microfluidic chips having grooves in their sides, are described.

WO 2005/096751 A3



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